SANTA CRUZ BIOTECHNOLOGY, INC.

CYP4A (M-207): sc-98988

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytochrome P450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and function to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Specifically, cytochrome P450s are responsible for metabolizing arachidonic acid to hydroxyeicosatetraenoic acid (a regulator of blood pressure) and epoxyeicosatrienoic acid (a molecule involved in signaling events). The CYP4A family of cytochrome P450 proteins contains two human proteins and multiple murine proteins, including CYP4A10, CYP4A12A, CYP4A12B, CYP4A14, CYP4A29, CYP4A31, CYP4A32 and CYP4A30B, all of which may be involved in the metabolism of fatty acids.

REFERENCES

1. Nelson, D.R., et al. 1996. P450 superfamily: update on new sequences, gene mapping, accession numbers and nomenclature. Pharmacogenetics 6: 1-42.
2. Hoch, U. and Ortiz De Montellano, P.R. 2001. Covalently linked heme in cytochrome p4504a fatty acid hydroxylases. J. Biol. Chem. 276: 11339-11346.
3. Zhang, F., et al. 2002. Arachidonate CYP hydroxylases of kidney contribute to formation of hypertension and maintenance of blood pressure. Acta Pharmacol. Sin. 23: 497-502.
4. Hercule, H.C., et al. 2003. Contribution of cyto-chrome P450 4A isoforms to renal functional response to inhibition of nitric oxide production in the rat. J. Physiol. 551: 971-979.
5. Nelson, D.R., et al. 2004. Comparison of cytochrome P450 (CYP) genes from the mouse and human genomes, including nomenclature recommendations for genes, pseudogenes and alternative-splice variants. Pharmacogenetics 14: 1-18.
6. Yaghini, F.A., et al. 2005. Contribution of arachidonic acid metabolites derived via cytochrome P4504A to angiotensin II-induced neointimal growth. Hypertension 45: 1182-1187.
7. Ng, V.Y., et al. 2007. Cytochrome P450 eicosanoids are activators of peroxisome proliferator-activated receptor α. Drug Metab. Dispos. 35: 1126-1134.

SOURCE

CYP4A (M-207) is a rabbit polyclonal antibody raised against amino acids 301-507 mapping at the C-terminus of CYP4A14 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CYP4A (M-207) is recommended for detection of a broad range of CYP4A family members of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with other CYP4 subfamily members.

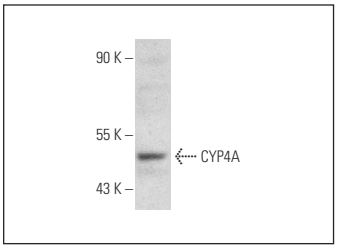
Molecular Weight of CYP4A family members: 50-60 kDa.

Positive Controls: c4 whole cell lysate: sc-364186 or rat kidney extract: sc-2394.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CYP4A (M-207): sc-98988. Western blot analysis of CYP4A expression in c4 whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.